

LIVE FIRE TEST AND EVALUATION NATIONAL WORKSHOP

Honorary Chairpersons:

Senator Kay Bailey Hutchison of Texas

Dr. Juan M. Sanchez, Vice President for Research, University of Texas at Austin



Sponsored by:

National Defense Industrial Association (NDIA),
Test and Evaluation Division

The University of Texas at Austin,
Center for Professional Development and Training



In Cooperation with:

The Office of the Secretary of Defense

At The University of Texas at Austin
J. J. Pickle Research Campus
The Commons Building

Austin, Texas
May 8-12, 2000

CLASSIFIED EVENT

For further information contact:

Mr. Sam Campagna at NDIA: (703)247-2544

or

Mr. Rick Seymour at DOT&E, OSD: (703)614-3991

Or visit either of these websites:

www.ndia.org

www.dote.osd.mil/lfte

Monday May 8, 2000

Host Hotel:

**Holiday Inn
Austin NW Plaza – Arboretum Area**

8901 Business Park Drive

Austin, TX 78759

Phone: 1.512.343.0888

Fax: 1.512.343.6891

Email: doshiaustin@pahmanagement.com

The Host Hotel has sold out:

Alternate Hotels include:

Embassy Suites Arboretum	(512) 372-8771
La Quinta Inn and Suites	(512) 832-2121
Austin (NW) Hawthorn Suites	(512) 343-0008
HomeGate Studios and Suites	(512) 833-0898

Monday May 8, 2000



Breakfast Independently (*Cafeteria available at the J. J. Pickle Research Campus, Commons Building*)

7:00 a.m. **Conference Registration and Security Processing at the J. J. Pickle Research Campus** (Must be completed prior to entering Conference Area)

8:30-10:30 a.m. **Tutorial A: Joint Live Fire: Past, Present, Future**

Past: *Mr. Tyler Brown, SAIC, Incorporated*
Mr. James Sebolka, Washington Institute of Technology
Present and Future:
Mr. Thomas Julian, Staff Specialist, Office of the Director, Operational Test and Evaluation/Live Fire Testing (DOT&E/LFT)
Mr. Robert Wojciechowski, Staff Specialist, DOT&E/LFT

8:30-10:30 a.m. **Tutorial B: Survivability/Vulnerability Information Analysis Center's (SURVIAC's) Information System for Live Fire/Joint Live Fire and Combat Data**

Mr. Jeffrey Foulk, SURVICE Engineering Company, Aberdeen, MD
Mr. Jeffrey Wuich, Booz-Allen and Hamilton, Dayton, OH

10:30-11:30 a.m. **Tutorial C: The Live Fire Testing and Training Initiative**

Mr. Rick Seymour, Staff Specialist, DOT&E/LFT
Mr. Bruce Simon, Program Manager, Live Fire Test Office, Center for Professional Development and Training, University of Texas – Austin



12:00 noon **Lunch Independently** (*Cafeteria available at the J. J. Pickle Research Campus*)

12:00 noon-4:30 p.m. **Displays Open**

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1:30-2:30 p.m. **Tutorial D: Directed Energy Weapons: A Millennium Update**

Dr. Richard Carter, Senior Research Staff Member, Computer Science and Mathematics Division, Oak Ridge National Laboratory, currently assigned as Staff Specialist in Office of the Deputy Director, Operational Test and Evaluation/Live Fire Test and Evaluation
Dr. Ira Kohlberg, Research Staff, Institute for Defense Analyses

2:30-4:00 p.m. **Tutorial E: A History of the Live Fire Test Program and a Discussion of LFT Oversight**

Dr. Lowell Tonnessen, Institute for Defense Analyses followed by a short clip from the movie "Pentagon Wars," and a question and answer period with Mr. James O'Bryon.



4:00-4:30 p.m. **Networking in Display Area**



5:30-7:00 p.m. **Reception at the Holiday Inn Austin NW Plaza – Arboretum Area**

Tuesday May 9, 2000



**7:00 a.m. Continental Breakfast/Late Registration at the
J. J. Pickle Research Campus, Commons Building (University of
Texas at Austin)**

[UNCLASSIFIED SESSIONS]

8:00 a.m. Call To Order
*Mr. Sam Campagna, Director, Operations, National Defense
Industrial Association*

8:05 a.m. Welcome to the University of Texas by Conference Cosponsor
*Dr. Jerry Davis, Director, Center for Professional Development and
Training, University of Texas at Austin*

8:15 a.m. Welcome and Overview by Conference Chairman
*Mr. James F. O'Bryon, Deputy Director, Operational Test &
Evaluation/Live Fire Testing, Office of the Secretary of Defense
(DDOT&E/LFT, OSD) and Chairman, Test and Evaluation
Division, National Defense Industrial Association*

8:25 a.m. Defense Keynote: Aviation Vulnerability to MANPADS
*Major General Julian A. Sullivan, Jr., USA, Commanding General,
U.S. Army Aviation and Missile Command*

**8:55 a.m. Congressional Keynote: The Importance of Defense Test and
Evaluation: A View from Congress**
Unites States Senator Kay Bailey Hutchison, Texas (Invited)

**9:20 a.m. University of Texas Keynote: The Role of Academia in Test and
Evaluation**
*Dr. Juan M. Sanchez, Vice President for Research, University of
Texas at Austin*

9:40 a.m. Plenary Keynote: Live Fire Test and Evaluation Policy and Goals
Mr. James F. O'Bryon, DDOT&E/LFT



10:10 a.m. Refreshments, Networking and Poster Papers in the Display Area

**10:10-
5:00 p.m. Display Area Open**

Tuesday May 9, 2000

[CLASSIFIED SESSIONS BEGIN]

10:30 **Administrative and Security Remarks/Procedures, Mr. Bob Morgan,**
Institute for Advanced Technology, University of Texas, Austin, TX,
and Ms. Chantal Marus, U.S. Army, Aberdeen Test Center,
Aberdeen Proving Ground, MD

**10:45 a.m. Session I: Service/Contractor Team Perspectives on Live Fire Test
and Evaluation**

Chair: Mr. James F. O'Bryon, DDOT&E/LFT

This panel will consist of three service / contractor teams (Program Manager and Support or Prime Contractor for a major system) providing insights into how they interact in their management of their Live Fire Test and Evaluation programs.

Land System:

Colonel Paul Izzo, Program Manager, Bradley Fighting Vehicle Systems, Program Executive Officer for Ground Combat and Support Systems

Mr. Mike Tanda, Program Manager, Bradley Fighting Vehicle Systems, United Defense Limited Partnership

Sea System:

Commander Walter Wright, USN, DD 21 Test and Evaluation Officer, Surface Strike Program Executive Office

Ms. Angela Maggioncalda, DD 21 LFT&E Manager and DDG 51 LFT&E Program Consultant, ROI Consulting, LLC

Air System:

Mr. Mark Franko, Program Manager's Office, F/A-18 E/F

Mr. Michael Meyers, Boeing Corporation



12:00 noon Awards Luncheon (Presentation of Stein Award)
Speaker: TBD

Tuesday May 9, 2000

1:30 p.m.	Session II: Service Perspectives on Integrating Live Fire Test and Operational Test in the Acquisition Process
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Chair: Dr. Ernest Seglie, Chief Scientist, Office of the Director, Operational Test and Evaluation, OSD

Panel: Mr. Brian Barr, Technical Director, Army Test and Evaluation Command
Mr. John Stoddart, Vice President, Defense, Oshkosh Truck, and Chairman, NDIA Industrial Committee on Operational Test and Evaluation (Invited)
Dr. Marion Williams, Chief Scientist, Technical Director, Air Force Operational Test and Evaluation Center
Rear Admiral John J. Zerr, USN (Ret.), Vice President, The Boeing Company, Former Commander, Operational Test and Evaluation Force (Invited)



2:30 p.m. Refreshments, Networking and Poster Papers in the Display Area

PARALLEL SESSIONS

3:00-4:30 p.m.	Session III, Track A: Live Fire Test and Evaluation Range Capability and Requirements
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Chair: Mr. Charles Valz, Director, Vulnerability/Lethality Core, Aberdeen Test Center (ATC), MD

Panel: Mr. Dick Dickson, Naval Air Warfare Center (NAWC), Weapons Division, China Lake, CA
Captain Charles Havasy, USAF, PhD, Chief, Munitions Test Analysis Branch, 46OG/OGMTE, Eglin AFB, FL
Mr. Ralph Lauzze, Aerospace Survivability Flight (46 OG/OGM/OL-AC), Wright-Patterson Air Force Base (WPAFB), OH
Mr. Lex Morrissey, Army Research Laboratory, MD
Mr. Al Wearner, Weapons Survivability Laboratory, NAWC Weapons Division, China Lake, CA

Tuesday May 9, 2000

3:00- 4:30 p.m.	Session III, Track B: Paper Presentations (<i>Airborne Laser System Live Fire Test (LFT)</i>)
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Chair: Mr. Mark Theroff, Staff Specialist, DOT&E/LFT

Presentations:

- “ABL Test and Evaluation Strategy,”** *Mr. Ian S. Talbot, 46th Test Wing, Air Armament Center, and Mr. Timothy Nikolai, SMC/TMTL, Airborne Laser (ABL) System Program Office*
- “ABL Target Theater Ballistic Missiles Vulnerability Testing and Assessment,”** *Mr. Nicholas Morley and Mr. Jorge Beraun, Air Force Research Laboratory, Kirtland AFB, NM*
- “ABL Susceptibility to MANPADS Threats,”** *Captain Michael Fredley and Mr. Walt Richert, Air Force Studies and Analyses Agency, Washington, DC*
- “Infrared Threat Study: ABL System Vulnerability,”** *Mr. Rick Apodaca, PGWCM Test and Evaluation Directorate, White Sands Missile Range, NM, and Dr. Richard Stone, TRW, Albuquerque, NM*

<p><i>Paper presentations for this session that could not be accommodated due to time limitations are available as Poster Papers. Please see the listing at the end of this agenda.</i></p>

3:00- 4:30 p.m.	Session III, Track C: Paper Presentations (<i>LFT of Small Arms, Medium Caliber and Bomblet Submunitions</i>)
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Chair: Mr. Tracy Sheppard, Center for Professional Development and Training, University of Texas, Washington DC Office

Presentations:

- “Weapon System Lethality Methodology,”** *Ms. Paula Boyd Smith, Army Research Laboratory (ARL), Aberdeen Proving Ground (APG), MD*
- “Ballistic Vulnerability Experiments and Analysis in Support of the Guided Multiple Launch Rocket System (GMLRS) Live Fire Evaluation,”** *Ms. Paige Mergler, ARL, APG, MD*
- “Anti-Surface Warfare (AsuW) Lethality Analysis,”** *Mr. John Abell, Applied Research Associates, Incorporated*
- “Live Fire Lethality Test: XM1001 40MM Canister Cartridge,”** *Mr. Russell Prather, Army Research Laboratory (ARL), Aberdeen Proving Ground (APG), MD, and Mr. J. Micheal Arminger, Aberdeen Test Center (ATC), APG, MD*

Tuesday May 9, 2000

“U.S. 20MM PGU-28/B Semi-Armor Piercing High-Explosive Incendiary Munition versus Enemy Aircraft,” Mr. Jeffrey Wuich, BAH, and Mr. John Bland, Naval Surface Warfare Center (NSWC), Dahlgren Division (DD), Dahlgren, VA

Paper presentations for this session that could not be accommodated due to time limitations are available as Poster Papers. Please see the listing at the end of this agenda.



**4:30-
5:00 p.m.**

Networking in Display Area



6:00 p.m.

**Depart Holiday Inn Austin NW Plaza – Arboretum Area for
Conference Dinner at Salt Lick (*Transportation/Cost Included in
Registration Fee—Guests welcome for additional fee*)**

Wednesday May 10, 2000



7:00 a.m. Continental Breakfast and Late Registration at the J. J. Pickle Research Campus, Commons Building

This breakfast features “Contractor’s Breakfast with the Principals”—attendees have opportunity to have a reserved seat with conference principals and “pick their brains” (registration at the NDIA desk required).

8:00 a.m. Call To Order

Dr. Jerry Davis, University of Texas, Center for Professional Development and Training

PARALLEL SESSIONS

8:10-9:30 a.m. Session IV, Track A: Other LFT Data Sources: Joint Live Fire, the Joint Technical Coordinating Groups, and the Information Analysis Centers: Roles, Responsibilities, and Benefits

Chair: Mr. Tom Julian, Staff Specialist, DOT&E/LFT&E

Presentations:

“Joint Technical Coordinating Group on Aircraft Survivability (JTCG/AS) Activities Relating to LFT&E,” LTC Charley Schwarz, Director of the Central Office, JTCG/AS

“Joint Technical Coordinating Group for Munitions Effectiveness (JTCG/ME) Activities Related to LFT&E,” Dr. Erwin Atzinger, Director of the Central Office, JTCG/ME

“Shock and Vibration Information Analysis Center (SAVIAC) Support of JLF and LFT&E,” Mr. Joel Leifer, Booz-Allen and Hamilton, Dayton, OH

“SURVIAC JLF/LFT&E Past, Present and Future Support,” Mr. Jeffrey Wuich, Booz-Allen and Hamilton, Dayton, OH, and Mr. Jeffrey Foulk, SURVICE Engineering Company, Aberdeen, MD

Paper presentations for this session that could not be accommodated due to time limitations are available as Poster Papers. Please see the listing at the end of this agenda.

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8:10- 9:30 a.m.	Session IV, Track B: The Intelligence Community and Live Fire Test and Evaluation
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*Chairs: **Dr. Charles D. Frizzelle, Jr.**, Major, U.S. Air Force,
Professor of Systems Acquisition Management, Defense
Systems Management College, Fort Belvoir, VA*

Presentations:

***Mr. Gayland Lyles**, former Deputy Director, Weapons and
Technology Group, Central Intelligence Agency*

***Mr. Paul R. Scheurich**, Chief, Acquisition Threat Support, Defense
Intelligence Agency, Bolling AFB, Washington, D.C.*



9:30 a.m. Refreshments, Networking and Poster Papers in the Display Area

PARALLEL SESSIONS/WORKSHOPS

**10:00-
5:30 p.m. Display Area Open**

10:00- noon	Session V, Track A: Case Studies in Sea Systems Live Fire T&E
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*Chairs: **Mr. Robert Jordan/Mr. Mark Theroff**, Staff Specialists,
DOT&E/LFT*

Presentations:

***“Completing the Survivability Analysis: The DSBEA and TSST
Processes,” Mr. Dan Foos and Mr. Victor Matsuo**, BAE
Systems*

***“Many are Called, Few are Chosen: A Shot Line Selection
Strategy,” Mr. Dan Foos**, BAE Systems, and **Ms. Angela
Maggioncalda**, ROI Consulting, Inc*

***“Damage Scenario-based Engineering Analyses of a T-ADC(X)
Conceptual Design,” Mr. Cliff Campbell and Mr. Jim Haas**,
Skyward, Ltd., Dayton, OH*

***“VIRGINIA Class Shock Testing, A Historical Perspective,” Mr.
Bryon S. Rose**, PMS450, Naval Sea Systems Command*

Session continues following lunch.

Wednesday May 10, 2000

**10:00-
noon**

Session V, Track B: Case Studies in Air Systems Live Fire T&E

Chair: Mr. Robert Wojciechowski, Staff Specialist, DOT&E/LFT

Presentations:

“Assessing the Susceptibility of the MV-22 Aircraft with Flight Tests and MCSOFT,” Mr. Robert Yearley and Ms. Kelaine Nick, Office of the Test Director, WSMR, NM, Dr. Richard Stone, TRW

“C-130 Wing Dry Bay Fire Extinguishing Agent Evaluation,” Mr. John J. Murphy, Jr., Aerospace Survivability Flight (46 OG/OGM/OL-AC), WPAFB, OH and Mr. Daniel C. Cyphers, Skyward, Ltd.

“F/A-18E/F Dry Bay Fire Protection – Development and LFT,” Mr. Roger Bullard and Mr. Patrick Mulcahy, Northrop Grumman

“F/A-18E/F Wing Live Fire Test,” Mr. Dennis Williams and Mr. Michael Meyers, The Boeing Company

“Joint Live Fire (JLF) C-130 Wing Hydrodynamic Ram Evaluation,” Mr. John J. Murphy, Jr., Aerospace Survivability Flight (46 OG/OGM/OL-AC), WPAFB, OH and Mr. John P. Haas, Skyward Ltd.

“Joint Live Fire Huey Cobra T&E Program,” Mr. Stephen F. Polyak, ARL, APG, MD

Session continues following lunch.

**10:00-
noon**

Session V, Track C: Case Studies in Land Systems Live Fire T&E

Chair: Mr. Tom Julian, Staff Specialist, DOT&E/LFT

Presentations:

“Early Evaluation of Survivability in Live Fire Test and Evaluation: Benefits for the Army,” Mr. Robert Laughman, U.S. Army Evaluation Center, Army Test and Evaluation Command, APG, MD, and Mr. Gregory Thompson, SURVICE Engineering Company, Aberdeen, MD

“Component Experimentation: A Critical Ingredient in the LFT&E Process,” Mr. John T. Polesne, ARL, APG, MD

“Component Vulnerability Analysis Archive (CVAA),” Mr. Ricky L. Grote, ARL, APG, MD, and Mr. Eric Scarborough, Applied Research Associates

“Frequency of Damage Mechanism Occurrence in Live Fire Testing,” Ms. Anne M. Hackman, ARL, APG, MD, and Mr.

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James A. Martin, SURVICE Engineering Company, Aberdeen,
MD

Session continues following lunch.



12:00 noon Luncheon, Networking, Poster Papers and Displays at the J. J. Pickle Research Campus, Commons Building (UT)

1:30- 2:45 p.m.	Session V, Track A, Continued: Case Studies in Sea Systems Live Fire T&E
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*Chairs: **Mr. Robert Jordan/Mr. Mark Theroff**, Staff Specialists,
DOT&E/LFT*

Presentations:

“Continuing Beyond LFT&E: Delivering More than Just a Report to the Fleet,” **Mr. Paul Schellhammer**, Gray Hawk Systems, Inc,
and **Mr. Dan Foos**, BAE Systems

“DD-21 Surrogate LFT&E Vulnerability Testing,” **CDR Walter Wright**, USN, DD-21 Program Manager’s Office

1:30- 2:45 p.m.	Session V, Track B, Continued: Case Studies in Air Systems Live Fire T&E
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*Chair: **Mr. Robert Wojciechowski**, Staff Specialist, DOT&E/LFT*

Presentations:

“Overview of the V-22 Live Fire Test and Evaluation Program,” **Mr. Paul Sheridan**, Naval Air Command

“The Utilization of Combat-Realistic Live Fire Testing in the H-1 Helo Upgrade Program,” **Mr. Chad Sparks**, Operations Analysis Senior Engineer, Bell Helicopter Textron, Inc., **Mr. Michael Kouvarakos**, Survivability Engineer, Aircraft Survivability Division, Patuxent River Naval Air Station, **Mr. Mikal Gray**, Project Engineer, Systems Vulnerability Branch, Naval Air Warfare Center (NAWC), China Lake

“Special Operations Aviation (SOA) Aircraft Fuel Subsystem LFT&E,” **Mr. Frederick A. Marsh**, ARL, APG, MD

“Tests and Lessons Learned in the Evaluation of the Survivability of the F-16 to MANPADS Threats,” **Mr. Alex G. Kurtz**, Aerospace Survivability Flight, (46 OG/OGM/OL-AC), WPAFB, OH and **Mr. Ray Young**, Sverdrup Technology/TEAS, Eglin AFB, FL

<p><i>Paper presentations for this session that could not be accommodated due to time limitations are available as Poster Papers. Please see the listing at the end of this agenda.</i></p>

Wednesday May 10, 2000

1:30- 2:45 p.m.	Session V, Track C, Continued: Case Studies in Land Systems Live Fire T&E
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Chair: Mr. Tom Julian, Staff Specialist, DOT&E/LFT

Presentations:

“Analysis in Support of Live Fire Testing: The Command and Control Vehicle Example,” Ms. Beth S. Ward, Computer Scientist, ARL, APG, MD

“Bradley Fighting Vehicle System A3 Live Fire Vulnerability Test,” Mr. David Scott, ATC, APG, MD

<p><i>Paper presentations for this session that could not be accommodated due to time limitations are available as Poster Papers. Please see the listing at the end of this agenda.</i></p>



2:45 p.m. Refreshments, Networking and Poster Papers in the Display Area

PLEASE MARK YOUR CALENDAR!

Testing and Training: A National Partnership 3rd Annual Symposium and Exhibition

[August 15-17, 2000](#)

At

The Omni Rosen Hotel (*The Conference is Growing. We've moved to the larger, more convenient Omni Rosen Hotel, next door to the Orlando Convention Center.*)
Orlando, Florida

Outstanding speakers, numerous exhibits, discussions and networking opportunities.
Details and exhibit information in upcoming agenda.
For more information, watch the NDIA website: www.ndia.org

Wednesday May 10, 2000

PLEASE MARK YOUR CALENDAR!

**National Roundtable on Defense Test, Evaluation, Acquisition,
and Deployment:
New Approaches for a New Administration in a New
Millennium with New Technologies and Threats**

March 6-8, 2001

On the Campus of Stanford University

For more information, watch the NDIA website: www.ndia.org

PARALLEL SESSIONS

3:15-5:15 p.m. Session VI, Track A: Advancements in Vulnerability Reduction Through Design and Technology

Chair: Mr. Tony Lizza, Chairman, Vulnerability Reduction Subgroup, JTTCG/AS

Presentations:

“Ballistic Testing of Fuel Tank Filler Technologies,” Mr. James R. Tucker, Applies Research Associates, WPAFB

“AAAV Criticality Analysis with Java-Based Fault Tree Visualization Tool,” Mr. Derek Erdley, Direct Reporting Program Manager Advanced Amphibious Assault, Woodbridge, VA, and Mr. Mark Butkiewicz, SURVICE Engineering Company, Aberdeen, MD

“Aircraft Survivability of MANPADS: The New Vision,” Mr. Greg Czarnecki and Mr. Joe Jolley, JTCG/AS, and Mr. Kevin Crosthwaite, SURVIAC, Dayton, OH

“Fuel Inertion Live Munition Testing Using CF3I,” Dr. Juan Vitali, Aerospace Survivability Flight, (46 OG/OGM/OL-AC), WPAFB, OH, and Mr. Steven R. VanHorn, F-16 System Program Office, WPAFB, OH

“Oxygen and Nitrogen Generation On-Board the C-17 for Life Support and Fuel Tank Inerting,” LTC Paul Fisher and Mr. George Miller, Air Force Research Laboratory, Brooks AFB, Texas

Wednesday May 10, 2000

“A Review of the Automated Ground Collision Avoidance System (GCAS),” Mr. Mark Skoog, Edwards Air Force Base, CA (Invited)

3:15-5:15 p.m.	Session VI, Track B: Human Effects and Advancements in Crew Casualty Estimation and Reduction in LFT&E
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Chair: Dr. Lowell Tonnessen, Research Staff, Institute for Defense Analyses

Presentations:

“Active Denial Concepts,” Lieutenant Colonel Chuck Beason, Scientific Advisor, Directed Energy Bioeffects Division, Air Force Research Laboratory, Brooks AFB, TX

“Radio Frequency Biological Effects,” Dr. Michael Murphy, Chief, Radio Frequency Radiation Branch, Air Force Research Laboratory, Brooks AFB, TX

“A Review of the G-Induced Loss of Consciousness Symptom,” Dr. Paul Werchan and LTC Tom Morgan, Air Force Research Laboratory, Brooks AFB, TX

“Effects of Combining Toxic Gases,” Dr. Adolph Januszkiewicz, Department of Respiratory Research, Walter Reed Army Institute of Research, Washington, DC (Invited)

“The Operational Requirement-Based Casualty Assessment (ORCA) Model: Background, Overview, and Update,” Dr. Edward G. Davis and Mr. David N. Neades, ARL, APG, MD

Wednesday May 10, 2000

3:15- 5:15 p.m.	Session VI, Track C: Paper Presentations (<i>Leading Edge Facilities and Instrumentation in Support of LFT&E</i>)
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Chair: **Mr. Ralph Lauzze**, Wright-Patterson Air Force Base,
OH

Presentations:

“AA5 Vulnerability/Lethality Test Range,” Ms. Hazel Cassady, ATC,
APG, MD

**“Aircraft Survivability Research Facility: Continuing Contributions
to Aircraft System LFT&E,” Mr. Thomas Holthaus**, Aerospace
Survivability Flight (46 OG/OGM/OL-AC), WPAFB, OH

**“Joint Live Fire Cobra Dynamic Rotor Blade Ballistic Test,” Mr. Jay
Kovar**, NAWC Weapons Division, China Lake, CA

**“Remote Optical Characterization Sensor Suite for National Missile
Defense LFT&E,” Mr. Alex Pertica and Ms. Sherry Riddle**,
Boeing/Lawrence Livermore National Laboratory, CA

**“Vulnerability Tests of Composite Bottles to Laser Irradiation,” R.
Ulibarri, G. Lush, S. Valdez, N. Morley**, Air Force Research
Laboratory, Albuquerque, NM, and **R. Rudder, T. King, R.
Evans**, Ball Aerospace and Technologies Corporation,
Albuquerque, NM



6:30 p.m. Optional Dinner (Details to follow)

Thursday May 11, 2000



7:00 a.m. Continental Breakfast at J. J. Pickle Research Campus, Commons Building

8:00 a.m. Call To Order

Mr. Sam Campagna, Director, Operations, National Defense Industrial Association

8:10 a.m. Session VII: The Role of Warfighter Utility in Live Fire Test Design and Analysis

Dr. Paul Deitz, Technical Director, U.S. Army Materiel Systems Analysis Activity

Mr. Jack Sheehan, DMSO Data Engineer, Defense Modeling and Simulation Office

9:00 a.m. Session VIII: Aircraft Ballistic Vulnerability: Analysis Techniques and Low Vulnerability Design

Dr. Robert Ball, AA/Bp, Naval Postgraduate School, Monterey, CA

Mr. Dave Hall, NAWC Weapons Division, China Lake, CA

Mr. Dave Legg, SURVICE Engineering Company, Aberdeen, MD



9:30 a.m. Refreshments, Networking and Poster Papers in the Display Area

10:00-noon Session IX, Track A: Modeling and Simulation in LFT&E

Chair: Dr. Frank Mello, Principal Member of Technical Staff, Computational Mechanics Division, Sandia National Laboratories, currently assigned as Staff Specialist in Office of the Deputy Director, Operational Test and Evaluation/Live Fire Test and Evaluation

Presentations:

“Weapon Lethality and Vulnerability Modeling,” Ms. Jill H. Smith, ARL, APG, MD, Mr. Tom Wasmund, NSWC Dahlgren, and Mr. Mike Giltrud, Defense Threat Reduction Agency

“Boeing’s Vision for Live Fire Testing Modeling and Simulation,” Mr. Bruce Cushing, Mr. Grady Ford, Mr. Dave Gallagher, Boeing Airplane and Missile, Boeing Phantom Works

“3D Measurement and Modeling Technologies for LFT&E,” Mr. Glenn M. Gillis and Mr. Michael J. Hardin, SURVICE Engineering Company, Aberdeen, MD

Thursday May 11, 2000

***“Integrated Strategic Architecture Analysis Code,” Mr. Tom Brown,
Mr. Bill Burckell, Mr. Ryan Gray, Schafer Corporation
“Doing the Unmentionable: Reconciling Pre-Test Predictions with
Post-Test Results,” Dr. A. Rex Rivolo, Dr. Arthur Fries,
Dr. Gary C. Comfort, Institute for Defense Analyses (IDA)***

*Paper presentations for this session that could not be
accommodated due to time limitations are available as Poster
Papers. Please see the listing at the end of this agenda.*

10:00- 11:30 a.m.	Session IX, Track B: Alternative Uses of Live Fire Test and Evaluation Events
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Chair: ***Mr. Richard Hoy, U. S. Army Ordnance Center and
School, APG, MD***

Presentations:

***“Battle Damage Repair – A Vital Resource for Aircraft LFT&E and
JLF Programs,” Lt Stephanie C. Masoni, Aerospace
Survivability Flight (46 OG/OGM/OL-AC), WPAFB, OH and
Mr. John M. Vice, Skyward, Ltd.***

***“Battle Damage Repair and Live Fire Testing of the V-22,” Mr. Joe
Manchor and Mr. Bob Matthews***

***“Development of a Computerized Aircraft Wiring Maintenance
Aid,” Mr. Mathias L. Kolleck, Booz-Allen and Hamilton,
Dayton, OH***

***“Interagency Cooperation within Live Fire Test and Evaluation,”
Mr. Al Wearer, Naval Air Weapons Center, Weapons
Division, China Lake, CA***

10:00- 11:00 a.m.	Session IX, Track C: Live Fire Test and Evaluation Risk Benefit Analysis
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***“Cost-Effective Vulnerability/Lethality Assessment: The Role of Full-
Up System-Level Live Fire Test and Evaluation,” Dr. Martha K.
Nelson, Associate Professor and Chair, Department of Business
Administration, Franklin and Marshall College, Lancaster, PA***



**12:00 noon Luncheon, Networking, Poster Papers and Displays at the J. J. Pickle
Research Campus, Commons Building (UT)**

Thursday May 11, 2000

PARALLEL SESSIONS/WORKSHOPS

1:30- 2:45 p.m.	Session X, Track A: Live Fire Testing of Emerging Directed Energy Threats
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Chairs: **Dr. Richard Carter**, Senior Research Staff Member,
Computer Science and Mathematics Division, Oak
Ridge National Laboratory, currently assigned as Staff
Specialist in Office of the Deputy Director, Operational
Test and Evaluation/Live Fire Test and Evaluation
Dr. John Shaner, Fellow, Dynamic Experiment Division,
Los Alamos National Laboratory, currently assigned as
Staff Specialist in Office of the Deputy Director,
Operational Test and Evaluation/Live Fire Test and
Evaluation

Presentations:

“Directed Energy Weapons (DEW) Effectiveness Methodology,” **Dr. William F. Braerman** and **Mr. Arthur E. LaGrange**, SURVICE Engineering Company, Aberdeen, MD
“Wideband RF Susceptibility T&E of the F-16 Fighter,” **Dr. Michael Harrison** and **Mr. Hector Del Aguila**, AFRL/DE, Kirtland AFB, and **Mr. Robert Stovall**, 46th Test Wing, Eglin AFB, FL
“Computer Technology Susceptibility to High Powered Microwaves (HPM),” **LTC Rick Hill**, (Invited)

1:30- 2:45 p.m.	Session X, Track B: Comanche LFT&E Program: A Closer Look at a Sample Case
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Chair: **BG(P) Joseph Bergantz**, Program Manager, RAH-66
Comanche (Invited)

Presentations:

“Comanche LFT&E Evaluation Strategy,” **Mr. Robert Laughman**, USAEC, APG, MD
“Support of the Comanche LFT&E Program,” **Mr. Gerald Burblis**, Sikorsky
“RAH-66 Comanche Milestone II Exit Criteria Tests,” **Mr. Patrick M. Swoboda**, **Mr. Frederick A. Marsh**, and **Mr. Stephen F. Polyak**, ARL, APG, MD

Thursday May 11, 2000

“User Involvement in the Comanche T&E Process,” Mr. Richard Jackson, Fort Eustis (Invited), and Major Brian Shoop, Fort Rucker

1:30 p.m.- 2:45 p.m.	Session X, Track C: Capturing Lessons Learned During LFT&E
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Chair: ***Dr. Jay Gould, Professor, Defense Systems Management College, currently working as Staff Specialist in Office of the Deputy Director, Operational Test and Evaluation/Live Fire Test and Evaluation***

Presentations:

“A Discussion of the Advanced Medium Range Air-to-Air Missile (AMRAAM) Phase II Live Fire Test and Evaluation Effort,” Dr. William W. Dyess, Jr., 46th Test Wing, Eglin Air Force Base, FL

“Lessons Learned from the MLRS M270A1 Survivability Program,” Mr. Todd Fisher, USAEC, APG, MD

“Maintaining Awareness of Lessons for the Future as they are Learned Today,” Mr. Tracy Sheppard, Center for Professional Development and Training, UT-Austin and former Staff Specialist, DOT&E/LFT

“Lessons Learned on Ship LFT&E Programs”, Dr. Ronald Reese, Institute for Defense Analyses



2:45 p.m. **Refreshments, Networking and Poster Papers in the Display Area**

3:15 p.m.	Session XI: LFT&E Mythology: Setting the Record Straight (<i>An interactive session with the audience.</i>)
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Host: ***Mr. James F. O’Byron, Deputy Director, Operational Test and Evaluation/Live Fire Test, Office of the Secretary of Defense and Chairman, Test and Evaluation Division, National Defense Industrial Association***



**4:00 -
5:00 p.m.** **Reception in Display Area**

6:00 p.m. **Independent Dining**

Friday May 12, 2000



7:00 a.m. Continental Breakfast at the J. J. Pickle Research Campus, Commons Building

8:00 a.m. Session XII: Putting Live Fire T&E Into Practice: A Case Study Challenge

8:15 a.m. Session XII: Putting Live Fire T&E Into Practice: Meeting the Challenge (Subgroups)

This working session is one of the most important of the entire conference. All conference registrants will be assigned to one of three subgroups tasked to assemble an LFT&E strategy for a hypothetical weapons/platform program. This interactive session will permit a hands-on approach to what is involved in this process. Following these subgroup sessions, each subgroup will report out its approach and draft strategy.

Facilitators IPT 1: Mr. Thomas Julian/Mr. Richard Fejfar

Facilitators IPT 2: Mr. Robert Jordan/Dr. Ronald Reese

Facilitators IPT 3: Mr. Robert Wojciechowski/Mr. Larry Eusanio



9:45 a.m. Refreshments and Recovery from Case Study

10:00 a.m. Session XIII: Group Out-Briefs from Session XII Case Studies to All Participants

IPT 1: Mr. Thomas Julian/Mr. Richard Fejfar

IPT 2: Mr. Robert Jordan/Dr. Ronald Reese

IPT 3: Mr. Robert Wojciechowski/Mr. Larry Eusanio

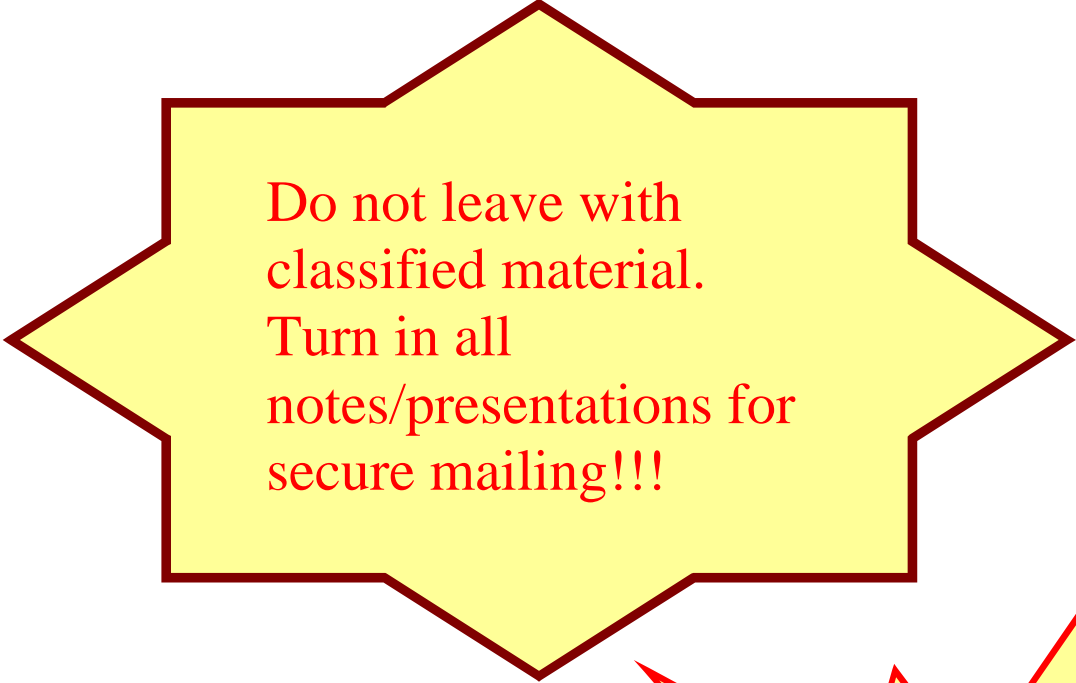
11:00 a.m. Conference Closing Remarks and Kudos

Mr. James F. O'Bryon, Conference Chairman

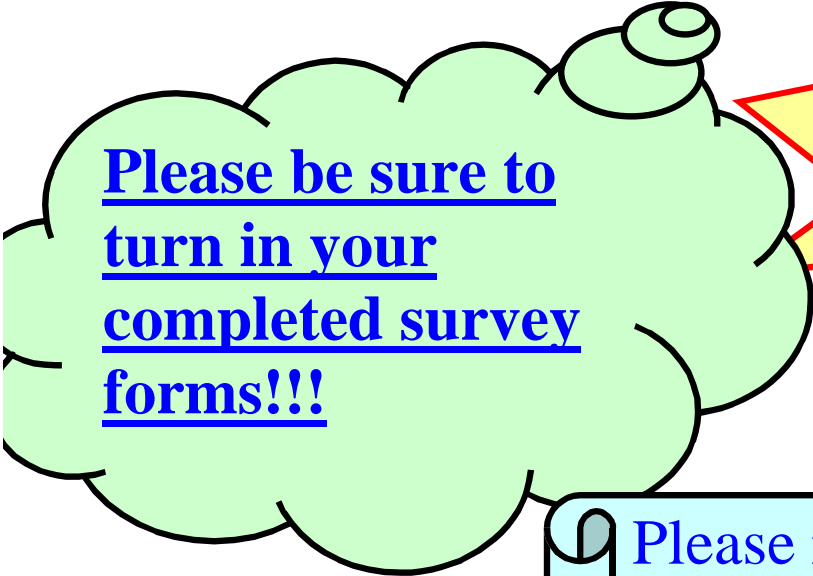
11:30 a.m. Conference Adjourns

POSTER PAPER LISTING:

1. ***“Advanced Joint Effectiveness Model (AJEM),” Mr. Thomas L. Wasmund, NSWC, Dahlgren, VA***
2. ***“Airborne Laser (ABL) Maximum Range Lethality Against Selected Theater Ballistic Missiles,” Mr. Timothy J. Nikolai, SMC/TMTL, Airborne Laser System Program Office***
3. ***“C-130J Composite Propeller Vulnerability Analysis,” Dr. Jeff Calcaterra, 46 OG/OGM/OL-AC, WPAFB***
4. ***“FRUITTREE: Fundamental Retrieval Utility and Information Technology Tool for Research, Evaluation, and Exhibition Initial Study,” Mr. Jeffrey Wuich, BAH, and Mr. Jeffrey Foulk, SURVICE Engineering Company, Aberdeen, MD***
5. ***“Joint Live Fire (JLF) Data Manager Support,” Mr. Kevin Crosthwaite, SURVIAC***
6. ***“Leveraging JTCG/AS Programs to Augment JLF Testing,” Dr. Jeff Calcaterra, PhD, and Mr. Alex Kurtz, 46 OG/OGM/OL-AC, Wright-Patterson AFB***
7. ***“Live Fire Testing and Training Program,” Mr. Rick Seymour, DOT&E/LFT***
8. ***“Navy JLF MANPADS Testing,” Mr. Leo Budd, NAWC Weapons Division, China Lake***
9. ***“Overview of the F/A-18E/F Live Fire Test Program,” Mr. J. Hardy Tyson, NAWC Weapons Division, China Lake***
10. ***“Standard Characterization of Foreign Ammunition,” Mr. Jeffrey Wuich, P.E., Booz-Allen and Hamilton, Dayton, OH, and Mr. Ron Dexter, SURVICE Engineering Company, Aberdeen, MD***



Do not leave with
classified material.
Turn in all
notes/presentations for
secure mailing!!!



Please be sure to
turn in your
completed survey
forms!!!



Have a Safe
Trip Home!!!



Please remember to pick
up your certificates of
completion prior to
leaving!!!